PATENT SPECIFICATION (11) 1 385 484

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(21) Application No. 10807/71 (22) Filed 22 April 1971 (19)

(23) Complete Specification filed 5 April 1972

(44) Complete Specification published 26 Feb. 1975

(51) INT. CL.[3] B65D 5/46

(52) Index at acceptance
B8P 7X 8C1A5 8C1C1 8C1C3

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(54) IMPROVEMENTS IN OR RELATING TO CONTAINERS

(71) We, BOWATER PACKAGING LIMITED, a British Company, of Bowater House, Knightsbridge, London, S.W.1, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to containers of box-like configuration and more particularly to retail packs for consumer goods such as dressed turkeys.

According to the present invention, a container of box-like configuration is built up from a blank of material so cut and scored that on assembly thereof extensions of a first pair of opposed walls of the container can be brought together to form a carrying handle; extension panels formed on and folded to lie inside and in face-to-face relationship with the second pair of opposed walls of the container having flap members cut therefrom, said members being co-operable with the carrying handle to hold it in its operative position.

The extension can, instead of being brought together to form a handle, be folded to lie one upon the other thereby providing a flat top for the container. The free end of one of the extensions may be formed with a locking tab engageable in a locking slit or slot formed in the other extension when the extensions are folded to lie one upon the other. The locking slit or slot may be formed at the edge of the wall from which the said other extension extends.

Preferably, each extension panel may be spaced apart from its corresponding facing wall. This may be achieved by forming each extension panel with a line of weakening which lies parallel to the top edge of its corresponding wall, the panel being folded successively through 90° about said edge and through 90° about the line of weakening. Each panel may also be formed with side flaps which may be folded to lie at right-angles to the panel so as to lie between the panel and its corresponding facing wall.

[*Price 33p*]

Conveniently, each flap member may be formed with a slot arranged to co-operate with a corresponding notch formed in the extensions of the first pair of walls. Preferably, each flap member may be hingedly attached by a line of weakening to the edge of its corresponding wall.

Further, according to the invention, there is provided a blank of material such as cardboard for forming a container of box-like configuration, the blank being of generally rectangular configuration and being provided with lines of weakening defining a row of four panels which form the walls in the erected container, one pair of alternate panels being formed with extensions which, on assembly can be brought together to form a carrying handle, and the other pair of alternate panels being formed with extension panels adapted, on assembly, to be folded to lie inside and in face-to-face engagement with the said other pair of panels, the extension panels having flap members cut therefrom which are co-operable, on assembly, with the carrying handle to hold it in its operative position.

The invention will now be described in more detail, by way of example, with reference to the accompanying drawings of which:—

Figure 1 shows a blank from which a box may be built up;

Figure 2 shows a partially erected box; and

Figures 3 and 4 show alternative ways of completing assembly of the box.

Referring to the drawing, a single substantially rectangular blank of double-backed corrugated paper is cut and scored to form four panels 1, 2, 3, 4, which, on erection of the blank, constitute the side and end walls of the container respectively. The panels 1 and 3, 2 and 3 and 2 and 4 are separated by crease lines A, B and double crease lines C respectively. The side wall panels 1 and 2 are formed with extension panels 5 and 6 defined respectively by crease lines D and E, the panel 6 being provided with lateral extension

flaps 7 and 8 defined by a crease line F and double crease lines G respectively.

The panels 1 and 2 are each extended to form a panel 9 and 10 respectively, defined by a crease line H. Cuts 11 formed in the panel 9 define a table 12 which is effectively hinged to the panel 1 by the crease line H. Generally trapezium-shaped flaps 13 and 14, which constitute hand-grips in the erected container, are provided on an edge of the panels 9 and 10, the flaps 13 and 14 being attached to the respective edges of panels 9 and 10 by double crease lines I and J respectively. Each of the flaps 13 and 14 is provided with a cut-out portion 15 and 16 respectively, whilst the flap 14 is also formed with an extension tab 17 defined by a crease line K. The side ends of the flaps 13 and 14 are also formed to provide acute-angled notches 18 and 19 respectively.

The end panels 3 and 4 are provided with extension panels 20 and 21 respectively. The panels 20 and 21 are formed with crease lines L and M respectively which, together with crease line H, from which they are equi-spaced, define small rectangular panels 22 and 23 respectively. Cuts 24, 25, formed respectively in the panels 20 and 21 define roughly trapezium-shaped flap members 26, 27, respectively, which are effectively hinged to the panels 3 and 4 by the crease line H. Each flap member 26, 27, is formed respectively with a rectangular slot 28, 29. The panels 20, 21, are also provided with pairs of crease lines N, P, respectively, which define side extension flaps 30 and 31 respectively. The end panel 4 is also provided with a further crease line Q defining a side extension flap 32.

Prior to leaving the manufacturer, panel 4 of the scored blank is folded through 180° about the crease line C so that it overlies and is in face-to-face engagement with the panel 2, and panel 1 is folded through 180° about the crease line A so that it overlies and is in face-to-face engagement with the panels 2 and 3, the free end of panel 1 overlying flap 32. Metal stitches are then used to fasten panel 1 to flap 32 so that the blank is formed into a flattened tube.

A box may be erected from this flattened tube as follows:—

The blank is first squared up to form a "rectangular tube" in which panels 1 and 2 are opposite one another and panels 3 and 4 are opposite one another. Extension panel 5 is then folded through 180° about the crease line D into the rectangular tube so that it overlies and is in face-to-face engagement with the panel 1. Flaps 7 and 8 are then folded upwardly through 180° about crease lines F and G respectively so that they overlie panel 6. Panel 6 is then folded upwardly through 90° about the crease line E. This permits flaps 7 and 8 to be folded back through 90° to overlie and be in face-to-face engagement with the inner surfaces of panels 3 and 4 respectively. Panel 5 is then folded back through 90° until it overlies and is in face-to-face engagement with the panel 6. Side extension flaps 30 and 31 are now folded through 90° about their respective crease lines N and P which is followed by folding the extension panels 20 and 21 through 90° about the crease line H. Panels 20 and 21 are then folded through 90° about the crease lines L and M respectively so that they lie inside of and in face-to-face relationship with the end panels. The panels 20 and 21 are spaced from the panels 3 and 4 by a distance defined by the width of the panels 22 and 23 which now lie parallel to the base of the box. The latter will now be in the state shown in Figure 2. The side extension flaps 30 and 31 are not visible in Fig. 2 because they have been folded about the crease lines N and P respectively so that after folding the panels 20 and 21 about the crease lines H, L and M as described above, they lie between the panels 3 and 20 and 4 and 21 respectively and in face-to-face relationship with the panels 1 and 2.

After the above operations have been carried out, completion of erection of the box can be carried out in two ways. Firstly, the panels 9 and 10 may be folded through 90° about the crease line H and the flaps 13 and 14 are folded upwards through 90° about the crease lines I and J so that the flaps 13 and 14 lie in face-to-face relationship. The flap members 26 and 27 are then folded about the crease line H until the slots 28 and 29 engage in the notches 18 and 19. The flaps 13 and 14 which now lie parallel to the sides 1 and 2 of the box form a carrying handle disposed centrally at the top of the box, the cut-outs 15 and 16 co-operating to provide a suitable hand-hold. The box will then be in the state as shown inFigure 3 of the drawings.

Alternatively, the flap members 26 and 27 may be folded through 90° about the crease line H so that they overlie the interior of the box. Panel 9 is then folded through 90° about the crease line H whereupon the panel 10 is folded through 90° about the crease line H to overlie panel 9. The tab 17 is then folded through 90° about the crease line K and inserted into the panel 9 by displacement of the tab 12. The box is now generally rectangular in form and has no handles, each of its sides presenting a plane, flat face as shown in Figure 4 of the drawings.

If the boxes of the type described above are used for holding consumer goods such as dressed turkeys, then the second "flat-pack" erection method is used when the boxes are transported to the retailer. The retailer can then open the top of the boxes and re-

assemble them as described in the first method, so that carrying handle are provided when the boxes are put on display shelves for the customer. The carrying handles increase the aesthetic appearance of the boxes as well as making them easily portable by the customer.

In a known method of constructing a box having carrying handles similar to those described above, the locking flap members are hingedly attached to the upper edge of two opposed side walls. However, in this method each locking flap member normally extends along the major part of panels 3 and 4 if not completely along its corresponding wall edge and more importantly the material from which the flap members are cut is wasted. In the arrangement described above, on the other hand, the amount of waste material from which the flap members are cut, that is, the extension panels 20, 21, is usefully employed to increase the overall strength characteristics of the container. In fact the panels 20 and 21 formed as described above with side flaps 30 and 31 can provide an estimated 30% extra stacking strength for vertically imposed loads. Furthermore, the panels 20, 21, also provide some extra cushioning for the contents of the box. To increase this effect the panels 20, 21, can be made more flexible by providing additional lines of weakening 33 and 34 respectively.

WHAT WE CLAIM IS:—

1. A container of generally box-like configuration built up from a blank of material so cut and scored that on assembly thereof extensions of a first pair of opposed walls of the container can be brought together to form a carrying handle; extension panels formed on and folded to lie inside and face-to-face relationship with the second pair of opposed walls of the container having flap members cut therefrom, said members being co-operable with the carrying handle to hold it in its operative position.

2. A container as claimed in claim 1, in which the extensions can, instead of being brought together to form a handle, be folded to lie one upon the other thereby providing a flat top for the container.

3. A container as claimed in claim 2, in which the free end of one of the extensions is formed with a locking tab engageable in a locking slit or slot formed in the other extension when the extensions are folded to lie one upon the other.

4. A container as claimed in claim 3, in which the locking slit or slot is formed at the edge of the wall from which the said other extension extends.

5. A container as claimed in any one of claims 1 to 4, in which each extension panel is spaced apart from its corresponding facing wall.

6. A container as claimed in claim 5, in which each extension panel is formed with a line of weakening which lies parallel to the top edge of its corresponding wall, the panel being folded successively through 90° about said edge and through 90° about the line of weakening.

7. A container as claimed in claim 5 or 6, in which each extension panel is formed with side flaps which are folded to lie at right-angles to the panel so as to lie between the panel and its corresponding facing wall.

8. A container as claimed in any one of claims 1 to 7, in which each flap member is formed with a slot co-operable with a corresponding notch formed in the extensions of the first pair of walls.

9. A container as claimed in any one of claims 1 to 8, in which each flap member is hingedly attached by a line of weakening to the edge of its corresponding wall.

10. A blank of material such as cardboard for forming a container of box-like configuration, the blank being of generally rectangular configuration and being provided with lines of weakening defining a row of four panels which form the walls in the erected container, one pair of alternate panels being formed with extensions which, on assembly can be brought together to form a carrying handle, and the other pair of alternate panels being formed with extension panels adapted, on assembly, to be folded to lie inside and in face-to-face engagement with the said other pair of panels, the extension panels having flap members cut therefrom which are co-operable, on assembly, with the carrying handle to hold it in its operative position.

11. A container substantially as hereinbefore described, with reference to and as illustrated by the accompanying drawings.

12. A blank of material such as cardboard substantially as hereinbefore described, with reference to and as illustrated by the accompanying drawings.

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Printed for Her Majesty's Stationery Office by Burgess & Son (Abingdon), Ltd.—1975.
Published at The Patent Office, 25 Southampton Buildings, London, WC2A 1AY
from which copies may be obtained.

1385484 COMPLETE SPECIFICATION

2 SHEETS *This drawing is a reproduction of the Original on a reduced scale*

Sheet 1

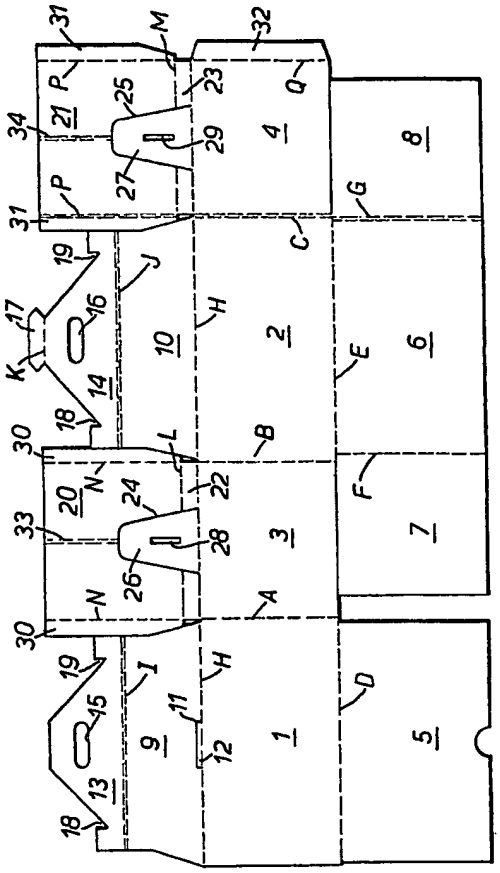

FIG. 1.

1385484 COMPLETE SPECIFICATION

2 SHEETS *This drawing is a reproduction of the Original on a reduced scale*

Sheet 2

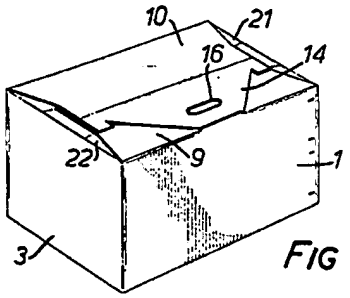

FIG 4.

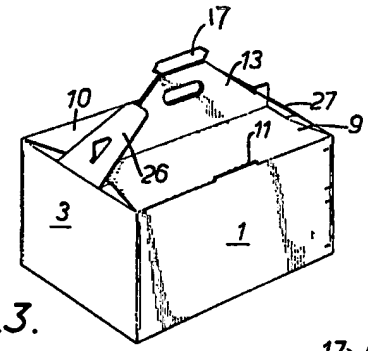

FIG.3.

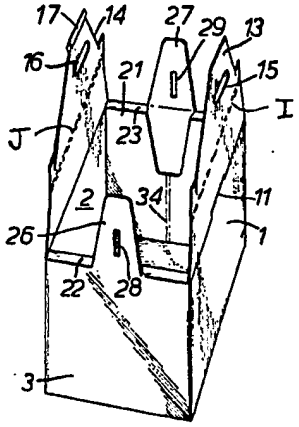

FIG.2.